

The Science Alert Generation system of the Cherenkov Telescope Array Observatory

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The Cherenkov Telescope Array Observatory and the Science Alert Generation System



- The Cherenkov Telescope Array will be the largest ground-based gamma-ray observatory with dozens of telescopes located in both the Northern and Southern Hemispheres and will provide broad energy coverage from 20 GeV to 300 TeV.
- One of the CTA Scientific goals is to detect and monitor gamma-ray transients and share science alerts with the community.
- Rapid and effective communication to the community requires a reliable and automated system to detect and issue candidate science alerts.
- This automation will be accomplished by the Science Alert Generation (SAG) pipeline, employing real-time analysis pipelines running on-site with the telescopes that can generate candidate science alerts within 20 s from the last acquired event.

The SAG Software Architecture



- The SAG is composed of three main pipelines that run in parallel: the Low-Level Reconstruction (sag-reco), the On-Line Data Quality (sag-dq), and the High-Level Reconstruction (sag-sci).

